

REMARKS

This is in full and timely response to the Final Office Action mailed on March 21, 2007.

Claims 12-13 and 15-29 are currently pending in this application, with claims 12 and 21 being independent.

No new matter has been added.

Reexamination in light of the following remarks is respectfully requested.

Entry of amendment

This amendment *prima facie* places the case in condition for allowance. Alternatively, it places this case in better condition for appeal.

Accordingly, entry of this amendment is respectfully requested.

Prematureness

Applicant, seeking review of the prematureness of the final rejection within the Final Office Action, respectfully requests reconsideration of the finality of the Final Office Action for the reasons set forth hereinbelow. See M.P.E.P. §706.07(c).

New non-final Office Action

At least for the following reasons, if the allowance of the claims is not forthcoming at the very least and a new ground of rejection made, then a new non-final Office Action is respectfully requested.

Claim objections

Paragraphs 5-7 of the Final Office Action indicate an objection of claims 25-27.

While not conceding the propriety of these objections and in order to advance the prosecution of the above-identified application, claims 25-27 have been amended in the manner suggested. Appreciation is expressed for these helpful suggestions.

Withdrawal of these objections is respectfully requested.

Rejection under 35 U.S.C. §103

Paragraph 9 of the Final Office Action indicates a rejection of claims 12-13 and 19-20 under 35 U.S.C. §103 as allegedly being unpatentable over U.S. Patent No. 5,040,069 to Matsumoto et al. (Matsumoto) in view of U.S. Patent No. 5,617,131 to Murano et al. (Murano).

Paragraph 10 of the Final Office Action indicates a rejection of claims 15-16 under 35 U.S.C. §103 as allegedly being unpatentable over U.S. Patent No. 5,040,069 to Matsumoto et al. (Matsumoto) in view of U.S. Patent No. 5,777,335 to Mochizuki et al. (Mochizuki).

Paragraph 11 of the Final Office Action indicates a rejection of claims 17 and 18 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of Mochizuki, and in further view of U.S. Patent No. 6,011,860 to Fujieda et al. (Fujieda).

These rejections are traversed at least for the following reasons.

Claims 12-13 and 18-20 - Claims 13 and 15-20 are dependent upon claim 12. Claim 12 is drawn to an optical system having an optical module, the optical module comprising:

a substrate (10), the substrate (10) including a plate (13) of a first material adhered to a wiring board (4) of a material other than the first material, a through-hole (14) extending through the plate (13) and the wiring board (4);

an optical element mounted to the wiring board (4), the optical element including a light receiving portion (15), the wiring board (4) being between the optical element and the plate (13); and

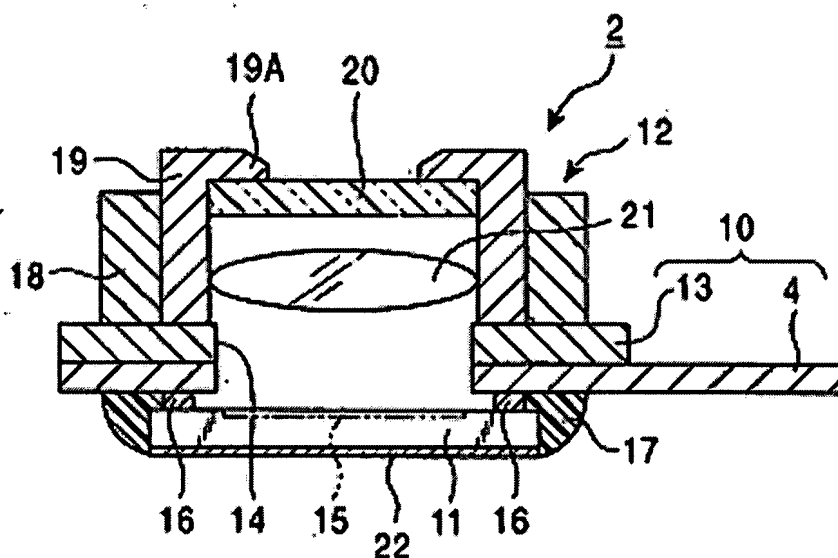
a lens unit (12) mounted to the plate (13), the lens unit (12) including a lens (21), the plate (13) being between the wiring board (4) and the lens unit (12),

wherein the light receiving portion (15) and the lens (21) are disposed along an optical axis, the optical axis extending through the through-hole (14); and

wherein the first material is a metal.

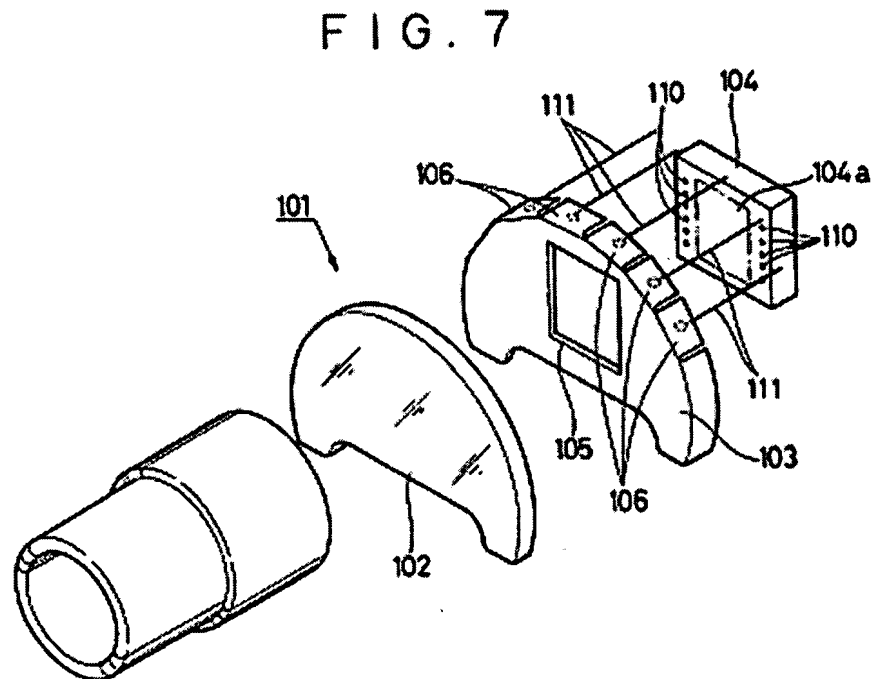
For convenience, Figure 3B of the specification as originally filed is provided hereinbelow.

FIG. 3B



Matsumoto - Referring to Figure 7 of Matsumoto, the Final Office Action contends that Matsumoto teaches the presence of element 102 as a plate 102, element 103 as a wiring board 103, element 104 as an optical element 104, and element 105 as a rectangular opening 105 provided centrally in the substrate 103, (Final Office Action at page 7).

For convenience, Figure 7 of Matsumoto is provided hereinbelow.



Yet, the Final Office Action readily admits that a review of Figure 7 fails to show the rectangular opening 105 of Matsumoto extending through the plate 102 (Final Office Action at page 8).

- Thus, the second embodiment of Matsumoto fails to disclose, teach, or suggest a substrate, the substrate including a plate of a first material adhered to a wiring board of a material other than the first material, a through-hole extending through the plate and the wiring board.

Instead, the Final Office Action refers to the first embodiment of Matsumoto for this admitted deficiency of Figure 7 (Final Office Action at page 8).

Specifically, the Final Office Action contends that Figure 2 of Matsumoto teaches the presence of element 15 as a plate 15, element 16 as a through-hole 16, and element 19 as an optical element 19 (Final Office Action at page 8).

For convenience, Figure 1 of Matsumoto is provided hereinbelow.

FIG. 1

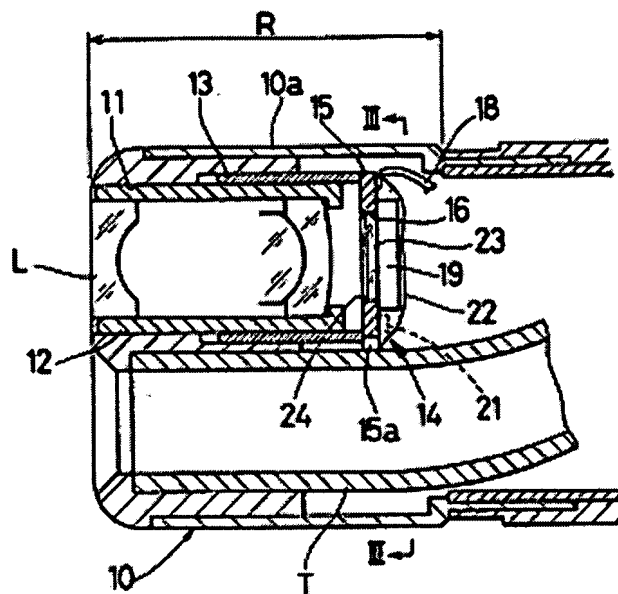
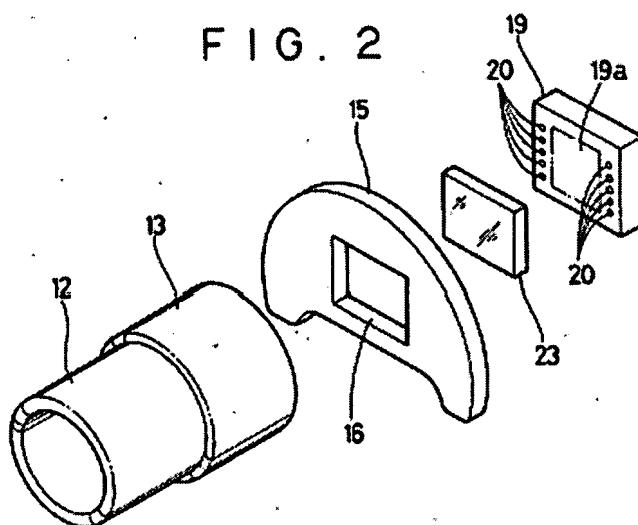


Figure 2 of Matsumoto is additionally provided hereinbelow.

FIG. 2



While the Final Office Action contends that Figure 7 of Matsumoto teaches the presence of element 102 as a plate 102, the Final Office Action fails to explain with clarity as to why the skilled artisan would have been motivated to modify Figure 7 of Matsumoto by replacing the alleged plate 102 found within Figure 7 of Matsumoto with the alleged plate 15 found Figure 2 of Matsumoto. This failure is evident especially when comparing the alleged plate 15 found Figure 2 of Matsumoto with the alleged wiring board 103 found within Figure 7 of Matsumoto.

Specifically, Matsumoto teaches that shown schematically in Figure 1 is the construction of a tip end portion of an insert portion of an electronic endoscope, wherein indicated at 10 is a tip member secured to the fore end of the insert portion and provided with a through hole 11 for fittingly receiving therein an optical unit including inner and outer cylinders 12 and 13 of the lens barrel which supports an objective lens L (Matsumoto at column 2, lines 59-66).

Matsumoto teaches that the reference 15 indicates a substrate of insulating material such as ceramics or the like, which is centrally provided with a rectangular opening 16 (Matsumoto at column 3, lines 2-5), and further that the thin film substrate 103 blocks light except in the area of a rectangular opening 105 which is provided centrally in the substrate 103 (Matsumoto at column 5, lines 44-47).

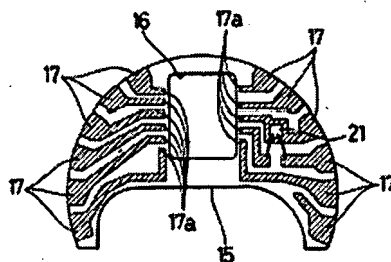
Moreover, Figure 2 of Matsumoto fails to teach the presence of both the alleged plate 15 and a wiring board.

Instead, the Final Office Action contends that Figure 4 of Matsumoto teaches the presence of element 17 as a wiring pattern 17 (Final Office Action at page 8).

In response, Matsumoto arguably teaches that on the rear side, the substrate 15 is formed with predetermined wiring patterns 17 as shown in Figure 4, each wiring pattern being connected to a wiring cable 18 at the outer peripheral marginal edge of the substrate 15 and having an electrode portion 17a in the vicinity of the center opening 16 (Matsumoto at column 3, lines 5-11).

For convenience, Figure 4 of Matsumoto is provided hereinbelow.

F I G . 4



In this regard, Figure 2 of Matsumoto depicts the presence of solid image pickup device 19. As clear from Figure 5 of Matsumoto, the solid image pickup device 19 is centrally provided with a light receiving surface 19a between rows of a large number of electrodes 20. Facing the light receiving surface 19a toward the opening 16, the electrodes 20 of the solid image pickup device 19 are directly bonded to the electrode portions 17a of the wiring patterns 17 on the substrate 15 (Matsumoto at column 3, lines 16-20).

However, the first embodiment of Matsumoto fails to disclose, teach, or suggest the wiring patterns 17 of Matsumoto as being between the optical unit including inner and outer cylinders 12 and 13 and the substrate 15 (Matsumoto at Figure 2).

- *Thus, the first embodiment of Matsumoto fails to disclose, teach, or suggest a substrate, the substrate including a plate of a first material adhered to a wiring board of a material other than the first material, a through-hole extending through the plate and the wiring board.*
- *Moreover, the first embodiment of Matsumoto fails to disclose, teach, or suggest an optical element mounted to the wiring board, the optical element including a light receiving portion, the wiring board being between the optical element and the plate.*

Furthermore, Matsumoto fails to disclose, teach, or suggest the substrate 15 being of a first material, wherein the first material is a metal.

Instead, Matsumoto arguably teaches that *the reference 15* indicates a substrate of *insulating material such as ceramics or the like*, which is centrally provided with a rectangular opening 16 (Matsumoto at Figure 2, column 3, lines 3-5).

Additionally, Matsumoto *fails* to disclose, teach, or suggest either the support plate 102 or the thin film substrate 103 as being of a first material, wherein the first material is a metal.

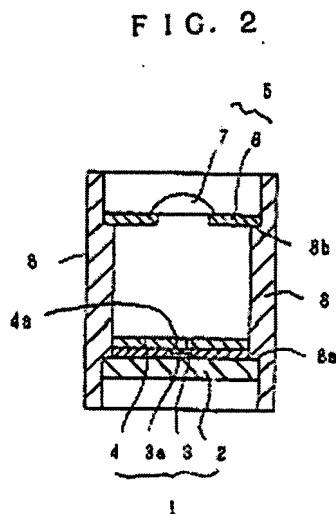
Instead, Matsumoto arguably teaches that the support plate 102 is of *optical glass or other material* and the flexible thin film substrate 103 consist of *a resin film or the like*.

- Thus, Matsumoto fails to disclose, teach, or suggest that the first material is a metal.

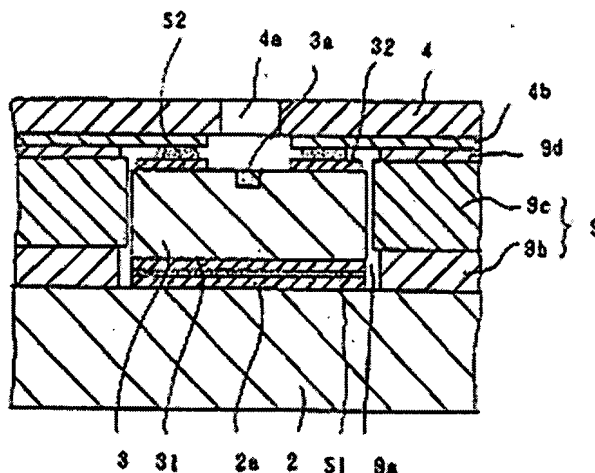
Murano - The Final Office Action cites Murano for the features that are admittedly deficient from within Matsumoto.

Murano arguably teaches that, as shown in Figure 3, the spacer 9 comprises at least double layers consisting of an *insulating layer 9b* made of an organic film such as a polyester or polyimide film, a paper, or glass, and a *metallic layer 9c* made of stainless steel, copper, iron, or the like (Murano at column 6, lines 19-23).

For convenience, Figure 2 of Murano is provided hereinbelow.



For convenience, Figure 3 of Murano is provided hereinbelow.



The light emitting unit of Murano comprises a first substrate 2, a plurality of LED arrays 3, and a second substrate 4 having a window portion 4a in the center (Murano at column 4, lines 38-40).

The first substrate 2 supports the image arrays 3, and as shown in Figure 3, common electrode wiring pattern 2a are previously formed on upper surface of the first substrate 2 according to a predetermined pattern, then, the common electrodes 31 on the bottom surface of the image arrays 3 are connected to the common electrode wiring pattern 2a by solder or a silver paste, for example, by solder S1 in the present case, and the image arrays 3 are linearly aligned and secured on the upper surface of the first substrate 2 (Murano at column 6, lines 54-63).

Each LED array 3 comprises a plurality of light emitting elements 3a which selectively emit light beam in response to external electric signals so that a latent image can be formed on the surface P of a photo-sensitive body by radiating the light beam onto the surface (Murano at column 5, lines 10-14). However, CCD arrays may be usable in place of the LED arrays for providing an image reading device such as an image sensor (Murano at column 11, lines 43-45).

As shown in Figure 3, the spacer 9 of Murano comprises at least double layers consisting of an insulating layer 9b made of an organic film such as a polyester or polyimide film, a paper, or glass, and a metallic layer 9c made of stainless steel, copper, iron, or the like (Murano at column 6, lines 19-23).

The Final Office Action contends that Murano teaches element 9c as being a plate 9c (Final Office Action at page 9). As a consequence, the Final Office Action appears to attempt a substitution of the substrate 15 of Matsumoto with the metallic layer 9c of Murano.

In response, comparison of Matsumoto with Murano may reasonably lead to conclusions shown within the following table:

Matsumoto	Murano
Image pickup device 19 (Figures 1, 2) Image pickup device 104 (Figure 7)	LED array 3 (Figures 2, 3)
Wiring patterns 17 (Figure 4) Wiring patterns 107 (Figure 8)	Wiring pattern 4b (Figures 2, 3)
Substrate 15 (Figure 2) Substrate 103 (Figure 7)	Substrate 4 (Figures 2, 3)
Opening 16 (Figure 2) Opening 105 (Figure 7)	Window portion 4a (Figures 2, 3)
Lens L (Figure 1)	Lenses 7 (Figure 2)

As shown by the table provided hereinabove, a most favorable reading of Murano may reveal that Murano fails to disclose, teach, or suggest a plate.

- Thus, Murano may reveal that Murano fails to disclose, teach, or suggest a substrate 4, the substrate 4 of Murano including a plate of a first material adhered to a wiring

board 4 of a material other than the first material, a through-hole 4a extending through the plate and the wiring board.

As shown by the table provided hereinabove, a most favorable reading of Murano may reveal that Murano fails to disclose, teach, or suggest that *the wiring board 4 is between the optical element and a plate.*

- Thus, Murano may reveal that Murano fails to disclose, teach, or suggest an optical element 3 of Murano mounted to the wiring board 4, the optical element 3 including a light receiving portion, *the wiring board 4 being between the optical element and the plate.*

As shown by the table provided hereinabove, a most favorable reading of Murano may reveal that Murano fails to disclose, teach, or suggest that the plate is between the wiring board 4 and the lens unit.

- Thus, Murano may reveal that Murano fails to disclose, teach, or suggest a lens unit mounted to the plate, the lens unit including a lens 7, the plate being between the wiring board 4 and the lens unit.

As shown by the table provided hereinabove, a most favorable reading of Murano may reveal that Murano fails to disclose, teach, or suggest a plate.

- Thus, Murano may reveal that Murano fails to disclose, teach, or suggest that the first material is a metal.

Mochizuki - Mochizuki arguably teaches an imaging apparatus. Note that Matsumoto arguably teaches the presence of an image pickup device 19, 104, and that Murano arguably teaches the presence of an LED array 3.

However, Mochizuki fails to disclose, teach, or suggest the features that are deficient from within Matsumoto and Murano.

Fujieda - Fujieda arguably teaches an image input apparatus. But like Mochizuki, Fujieda also fails to disclose, teach, or suggest the features that are deficient from within Matsumoto and Murano.

Official Notice - Paragraph 4 of the Final Office Action contends that in the previous Office Action mailed on October 6, 2006, claim 13 was rejected by taking Official Notice to the recited limitations, and that because the Applicant failed to traverse the Examiner's assertions of Official Notice, the well-known in the art statement is taken to be admitted art.

In response to this assertion, it is the claims as finally rejected by the Final Office Action of March 21, 2007, and not those rejected by the non-final Office of October 6, 2006, that are the claims at issue. Specifically, present claim 13 is dependent upon independent claim 12. An Amendment in Response to Non-Final Office Action was filed on January 5, 2007 as a response to the non-final Office of October 6, 2006. Thus, the rejections found within the non-final Office of October 6, 2006 against claim 12 and the claims dependent thereon are irrelevant in view of the amendment to independent claim 12.

Regarding the use of Official Notice, the rules and regulations set forth by the U.S. Patent and Trademark Office dictate that *when a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as specific as possible, and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons.* 37 C.F.R. §1.104(d)(2).

In accordance rules and regulations set forth by the U.S. Patent and Trademark Office, a reference or an Examiner's affidavit to support this officially noticed position of obviousness or what is well known is respectfully requested.

The failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error. *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989).

Regarding the citation of M.P.E.P. §2144.03 within the Examiner's Answer, the M.P.E.P. provides guidance and instructions to examiners, *In re Portola Packaging Inc.*, 42 USPQ2d 1295, 1297 (Fed. Cir. 1997). Nevertheless, the M.P.E.P. does not have the force and effect of law, but is entitled to notice so far as it is an official interpretation of statutes or regulations with which it is not in conflict. *Litton Systems, Inc. v. Whirlpool Corporation*, 728 F.2d 1423, 1439, 221 USPQ 97, 107 (Fed. Cir. 1984).

Furthermore, the M.P.E.P. provides that if this reference or Examiner's affidavit is not provided, the assertions of what is well known must be withdrawn. See M.P.E.P. §2144.03.

Withdrawal of these rejections and allowance of the claims is respectfully requested.

Paragraph 12 of the Final Office Action indicates a rejection of claims 21-22 and 28-29 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of U.S. Patent No. 5,821,532 to Beaman et al. (Beaman).

Paragraph 13 of the Final Office Action indicates a rejection of claim 23 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of Beaman and in further view of Murano.

Paragraph 14 of the Final Office Action indicates a rejection of claims 24-25 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of Beaman and in further view of Mochizuki.

Paragraph 15 of the Final Office Action indicates a rejection of claims 26-27 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of Beaman and in further view of Mochizuki, and in further view of Fujieda.

These rejections are traversed at least for the following reasons.

Claims 21-29 - Claims 22-29 are dependent upon claim 21. Claim 21 is drawn to an optical system having an optical module, the optical module comprising:

a substrate (10), the substrate (10) including a plate (13) of a first material adhered to a wiring board (4) of a material other than the first material, a through-hole (14) extending through the plate (13) and the wiring board (4);

an optical element (11) mounted to the wiring board (4), the optical element (11) including a light receiving portion (15), the wiring board (4) being between the optical element (11) and the plate (13); and

a lens unit (12) mounted to the plate (13), the lens unit (12) including an optical filter (20) and a lens (21), the lens (21) being between the optical filter (20) and the light receiving portion (15), the plate (13) being between the wiring board (4) and the lens unit (12),

wherein the light receiving portion (15) and the lens (21) are disposed along an optical axis, the optical axis extending through the optical filter (20) and the through-hole (14).

Beaman - Beaman arguably teaches an imager package that includes the presence of lens elements 62 and blur filter 62 (Beaman at Figure 6).

However, the reasons regarding Matsumoto, Mochizuki, Murano, and Fujieda as provided hereinabove with respect to claim 12 are incorporated herein by reference. In this regard, Beaman also *fails* to disclose, teach, or suggest the features that are deficient from within Matsumoto, Mochizuki, Murano, and Fujieda, as previously highlighted hereinabove with respect to claim 12.

Matsumoto, Mochizuki, Murano, and Fujieda - The reasons regarding Matsumoto, Mochizuki, Murano, and Fujieda as provided hereinabove with respect to claim 12 are incorporated herein by reference.

Furthermore, Matsumoto, Mochizuki, Murano, and Fujieda, either individually or as a whole, fail to disclose, teach, or suggest a lens unit mounted to the plate, the lens unit including an optical filter and a lens, the lens being between the optical filter and the light receiving portion, the plate being between the wiring board and the lens unit.

Withdrawal of these rejections and allowance of the claims is respectfully requested.

Official Notice - The Final Office Action takes Official Notice that the use of lens barrels being moveable along an optical axis of an optical module is notoriously well known to perform different functions (i.e., focusing, depth of field adjustment, etc) in the art and would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Matsumoto and Beaman by having a lens barrel moveable along an optical axis (Final Office Action at page 16).

In response, the teachings, suggestions or incentives supporting the obviousness-type rejection must be clear and particular. Broad conclusory statements, standing alone, are not evidence. *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). However, this contention is merely a personal conclusion that is unsupported by any objective evidence.

As a rule, “assertions of technical facts in areas of esoteric technology must always be supported by citation to some reference work recognized as standard in the pertinent art and the appellant given, in the Patent Office, the opportunity to challenge the correctness of the assertion or the notoriety or reputation of the cited reference.” (Citations omitted). *In re Pardo and Landau*, 214 USPQ 673, 677 (CCPA 1982). The support must have existed at the time the claimed invention was made. *In re Merck & Co., Inc.*, 231 USPQ 375, 379 (Fed. Cir. 1986).

“Allegations concerning specific ‘knowledge’ of the prior art, which might be peculiar to a particular art should also be supported and the appellant similarly given the opportunity to make a challenge.” (Citations omitted). *In re Pardo and Landau*, 214 USPQ 673, 677 (CCPA 1982).

In addition, “it is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant’s structure as a template and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby the applicant’s combination would have been obvious” (citations omitted). *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). See also *In re Dembiczak*, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999) (rejection based upon hindsight is reversed).

Moreover, the procedures established by Title 37 of the Code of Federal Regulations expressly entitle the Applicant to an Examiner's affidavit upon request. Specifically, "when a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as specific as possible, and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons." 37 C.F.R. §1.104(d) (2).

Accordingly, Applicant hereby requests a reference or an Examiner's affidavit to support this officially noticed position of obviousness or what is well known.

Further, note that if this reference or Examiner's affidavit is not provided, the assertions of what is well known must be withdrawn. See M.P.E.P. §2144.03.

Also, note that the *failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error*. *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989).

In addition, this assertion amounts to nothing more than an "obvious-to-try" situation. Specifically, "an 'obvious-to-try' situation exists when a general disclosure may pique the scientist's curiosity, such that further investigation might be done as a result of the disclosure, but the disclosure itself does not contain a sufficient teaching of how to obtain the desired result, or that the claimed result would be obtained if certain directions were pursued." *In re Eli Lilly & Co.*, 14 USPQ2d 1741, 1743 (Fed. Cir. 1990). Moreover, "an invention is 'obvious to try' where the prior art gives either no indication of which parameters are critical or no direction as to which of many possible choices is likely to be successful." *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 10 USPQ2d 1843, 1845 (Fed. Cir. 1989).

Here, the cited prior art does not contain a sufficient teaching of how to obtain the desired result, or that the claimed result would be obtained if certain directions were pursued. "Obvious to try" is not the standard under §103. *In re O'Farrell*, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). Withdrawal of these rejections and allowance of the claims is respectfully requested.

Conclusion

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

Fees

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

Dated: May 11, 2007

Respectfully submitted,

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